

## REMARKS/ARGUMENTS

Applicants have received and carefully reviewed the Office Action of the Examiner mailed June 11, 2003, setting a shortened statutory period for response to expire September 11, 2003. Claims 1-24 remain pending. Reconsideration and reexamination are respectfully requested.

In paragraph 3 of the Office Action, the Examiner rejected claims 23-24 under 35 U.S.C. §112, second paragraph, as being indefinite, in particular stating that the meaning of the terms “glive” and “gref” was not clear. Applicants have amended claim 23 to remove the terms “glive” and “gref”. It is believed that with this amendment, claims 23-24 fully comply with 35 U.S.C. §112, second paragraph.

In paragraph 5 of the Office Action, the Examiner rejected claims 1-5, 11-14 and 18-20 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,564,166 to Ume et al. After careful review of the cited reference, and in light of the above amendments, Applicants respectfully disagree.

Ume et al. appear to disclose a method and system for using interference patterns to detect thermally induced warpage of a workpiece such as a printed circuit board (see Ume et al., Title). Referring to Figure 2, the system appears to include a chamber 104, in which a workpiece 24 is subjected to heating and cooling that simulates a fabrication process. Ume et al. suggest observing the workpiece 24 throughout the simulated fabrication process, seeking to detect thermally induced warpage of the workpiece. ✕ Because Ume et al. place the workpiece 24 (such as a PC board or silicon wafer) in controlled chamber 104 to perform the test, there would be no motivation whatsoever to detect an object entering the chamber, as recited in claim 1.

To make this more clear, however, claim 1 has been amended to recite:

1. (Currently Amended) A method for detecting an object ~~in~~ entering a monitored area, the method comprising the steps of:
  - illuminating the monitored area with a pattern;
  - capturing a live image of the monitored area, including the pattern;
  - and
  - detecting an object entering ~~in~~ the monitored area when a change is detected in the pattern in the live image.

As can be seen, claim 1 recites a method for detecting an object entering a monitored area. As noted above, nothing in Ume et al. discloses or suggests detecting an object entering a monitored area as recited in claim. Rather Ume et al. appears to detect thermally induced warpage of a work piece once the workpiece is already in the chamber during a simulated fabrication process. In view thereof, Applicants believe that claim 1 is clearly patentable over Ume et al. For similar and other reasons, dependent claims 2-5 are also believed to be clearly patentable over Ume et al.

Turning now to independent claim 11. Claim 11 has been amended to recite:

11. A method for detecting an object ~~in~~ entering a monitored area, the method comprising the steps of:  
illuminating the monitored area with a first pattern;  
creating moiré interference bands by imposing a second pattern shifted relative to the first pattern;  
capturing a live image of the monitored area, including the moiré interference bands; and  
detecting an object entering ~~in~~ the monitored area when a change is detected in the moiré interference bands in the live image.

For similar reasons to those discussed above with respect to claim 1, independent claim 11 is also believed to be clearly patentable over Ume et al. For similar and other reasons, dependent claims 12-14 and 18-20 are also believed to be clearly patentable over Ume et al.

In paragraph 8 of the Office Action, the Examiner rejected claims 6-10, 15-17 and 21 under 35 U.S.C. §103(a) as being unpatentable over Ume et al. For similar to those given above, and other reasons, dependent claims 6-10, 15-17 are also believed to be clearly patentable over Ume et al.

In paragraph 9 of the Office Action, the Examiner states that claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants have amended claim 22 to include all the limitations of the base claim. As such, claim 22 is believed to be in condition for allowance.

Reconsideration and reexamination are respectfully requested. It is submitted that, in light of the above amendments and remarks, all pending claims 1-24 are now in

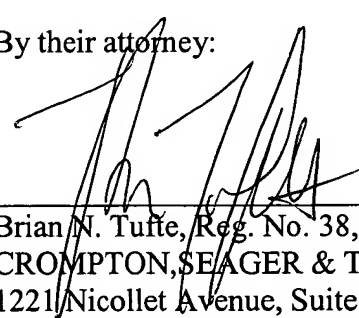
condition for allowance. If a telephone interview would be of assistance, please contact the undersigned attorney at 612-677-9050.

Respectfully Submitted,

Darren D. Cofer et al

By their attorney:

Date: September 5, 2003



---

Brian N. Tufte, Reg. No. 38,638  
CROMPTON, SEAGER & TUFTE, LLC  
1221 Nicollet Avenue, Suite 800  
Minneapolis, Minnesota 55403-2420  
Telephone: (612) 677-9050  
Facsimile: (612) 359-9349